ICLEI CITIES IN ACTION

ICLEI
Local Governments for Sustainability

Budget-Friendly Tips for Cutting Greenhouse Gas Emissions

By reducing greenhouse gas emissions, local governments of all sizes can cut energy costs, improve air quality, stimulate the local economy, and mitigate global warming. Below are six easy ways to get started.

Switch to LEDs

LEDs or light emitting diodes, are 90 percent more energy efficient and last 6–10 times longer than conventional lights. Save energy and maintenance costs by switching conventional bulbs to LEDs in traffic signals and exit lights. Because these lights are functioning 24 hours a day, the energy and cost savings accrue quickly.

Turn Out the Lights at Night

Instituting a "lights out at night" policy in city buildings is an easy and effective way to save electricity, reduce greenhouse gas emissions, and save municipal dollars. This can be accomplished through educational campaigns and through technology, such as timers and occupancy sensors.

Buy Bikes for Law Enforcement Officials

Bicycles are inexpensive and people-powered. Downsizing some police sedans to mountain bikes in dense urban areas will significantly cut fuel costs, reduce tailpipe emissions, and in times of heavy traffic congestion, increase mobility.

Lighten Up Rooftops

Cool roofs absorb less solar energy and quickly release any heat that they store. Simply adding a highly reflective/emissive coating to a black or metal roof can reduce the need for air conditioning and produce huge annual cost and energy savings while decreasing greenhouse gas emissions at the same time.

Purchase Energy Efficient Equipment

Look for ENERGY STAR labeled equipment—ENERGY STAR computers use 70 percent less electricity than non-ENERGY STAR equipment. Some ENERGY STAR copy machines reduce paper costs by $60 a month and reduce energy costs at the same time, and fax machines that have earned the ENERGY STAR label can cut associated energy costs by 40 percent.

Encourage Commuters to Ride the Bus

Providing incentives for commuters to ride a bus rather than drive a car to work is one way for cities to decrease traffic, free up downtown parking spaces, and reduce emissions too. These can include subsidized or free transit passes, parking cash-out programs, coordinated car or van pools, and programs such as a commuter challenge (for fun and prizes).

Local Government Leadership Through Innovation

All across the US, local governments are finding innovative ways to reduce emissions while achieving a host of other benefits.

Energy Efficiency

- ***Minneapolis's Police Precinct Renovation***

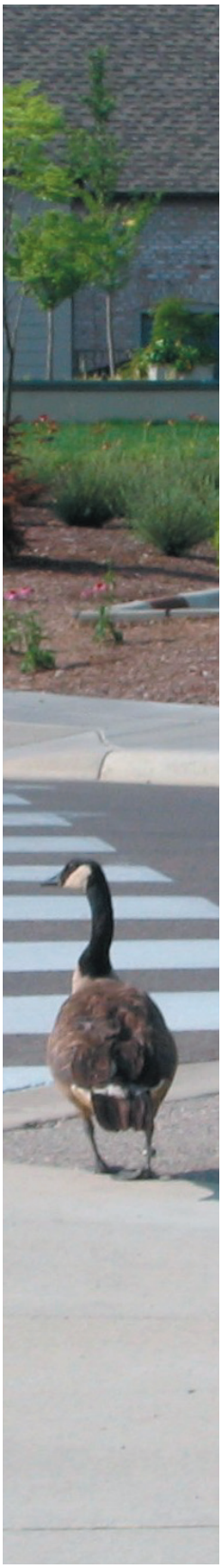
  The City of Minneapolis recently turned an overcrowded police precinct into one of the community's most innovative green buildings. The city renovated and added on to the existing structure and carried out comprehensive energy modeling to examine the energy use impacts of all new and existing systems. The resulting benefits include approximately **40 percent savings** in annual energy costs, a reduction of more than **300 pounds of CO_2 emissions**, and an anticipated return on investment in less than seven years.

- ***Chicago's Green Bungalow Initiative***

  The City of Chicago renovated four bungalow-style homes to determine if the benefits of green building, such as improved indoor air quality and energy efficiency, could be achieved affordably while remaining true to the original spirit of each home's design. Renovation of the homes was completed in 2002 and a subsequent energy analysis showed that the four bungalows together **saved ~37,000 kWh and ~4,300 therms of natural gas** each year. The renovation also **prevented 56 tons of CO_2 from being released** into the atmosphere annually. Simple payback periods for the additional green features of these homes ranged between 4.6 and 8.1 years. The green bungalows were projected to yield an average **savings of more than $900 per home** for heating, cooling, and hot water use in comparison to standard rehab homes.

- ***Ann Arbor's Municipal Energy Fund***

  Since 1998 Ann Arbor's Municipal Energy Fund has provided city facilities with a source of capital for energy efficiency retrofits. The Energy Fund provides initial capital for new projects and receives 80 percent of projected annual energy savings from each installed project for five years. The five-year payment plan allows projects that have a shorter payback to help support projects with a longer payback, and all savings accrued beyond the first five years remain with the departments implementing the improvements. The Fund was seeded by the city with **five annual investments of $100,000, and quickly became self-sustaining**. Most installed measures have had payback periods of three to six years, and projects supported by the Fund have yielded a total of **685 tons of annual eCO_2 reductions.**



Renewable Energy

Montgomery County, Maryland's Green Power Purchasing

In 2004, Montgomery County led a group of local governments and local government agencies in a wind energy purchase that represents 5 percent of the buying group's total electricity needs. Under the two-year deal, the buying group will collectively purchase 38 million kWh of wind energy annually, translating into a **yearly reduction of 21,000 tons of CO_2, 95,000 pounds of nitrous oxides, and 1.4 pounds of mercury.** The County demonstrated the benefits of renewable energy in meeting the requirements of the federal Clean Air Act by including the wind energy purchase as a control measure for ozone pollution in a "State Implementation Plan" for air quality improvement. The County plans to offset the added expense of the wind power purchase by instituting employee energy efficiency programs such as turning off lights, computers, and office equipment when not is use.

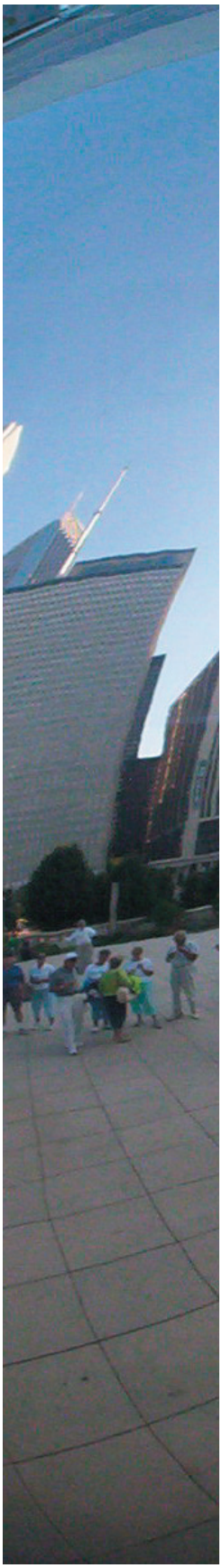
Solid Waste

San Francisco's Organics Collection Program

The City of San Francisco instituted residential curbside collection of organic material as part of its Fantastic Three program. The program provides each household with a green cart for organic waste, a blue cart for commingled recyclables, and a black cart for all remaining trash. Residents and businesses are encouraged to place all food scraps and yard trimmings into the green cart, which is collected for composting at a regional facility. By instituting curbside organics collection, San Francisco became the first large city in the nation to collect food scraps citywide. The Fantastic Three program enabled the city to reach a reported overall **67 percent garbage diversion rate in 2004.** Through outreach and other methods, the City plans to expand the Fantastic Three program and increase both the amount of organics and recyclables collected. The program's expansion is projected to achieve an **annual eCO_2 reduction of 70,000 tons.**

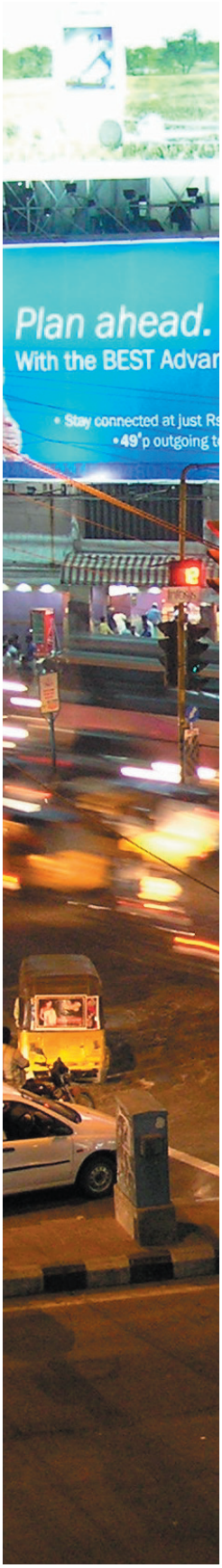
Seattle's Ban on Recyclables from Garbage

Since January 2005 the City of Seattle has prohibited the disposal of certain recyclables from residential, commercial, and self-haul garbage by law. The new recycling ordinance is aimed at eliminating recyclable or compostable paper, cardboard, aluminum cans, plastic bottles, and yard debris that, until recently, have constituted approximately 25 percent of the city's garbage. The city hopes the new ordinance will **save residents and businesses as much as $2 million per year** and keep future garbage costs low, as well as help to reverse the recent decline in Seattle's recycling rates. The measure is projected to achieve an **annual reduction of 260,000 tons of eCO_2.**



Miami-Dade County's Paperless Traffic Court Voice Response System

Miami-Dade County became a pioneer in the realm of waste reduction when it implemented the world's first "paperless" traffic court. Using technology that digitizes paper-based documents and makes them more accessible, both internally and to the public, the county has significantly increased the efficiency with which it handles traffic court cases and reduced the amount of paper used in the process. In addition to the paperless traffic court, the county also implemented an Interactive Voice Response telephone system that enables citizens to pay for traffic and parking tickets over the phone or online, make court dates, or make child support inquiries. The system reduces the need for considerable amounts of paperwork, thereby minimizing waste. It also significantly reduces transportation miles to and from court, **eliminating an estimated 1,480,000 vehicle miles traveled and 4,300 tons of eCO_2 since its implementation.**



Transportation

Keene's Conversion to Biodiesel

From fire engines to snowplows, all 77 of the vehicles in the City of Keene, New Hampshire's Public Works Department are running smoothly on B20 biodiesel. The fleet is fueled onsite at the department's pump. The biodiesel performs well in cold temperatures and has improved the air quality inside the fleet maintenance facility. The City has burned more than 4,400 gallons of biodiesel since 2002, which **prevents an estimated 12 tons of CO_2 from entering the atmosphere annually.**

Honolulu's Bus Rapid Transit Program

A steady growth in passengers choosing the bus for their commute has accompanied the expansion of Honolulu's Bus Rapid Transit program. Monthly ridership has increased from about 100,000 riders since 1999, when the program began, to over 630,000 in 2005. Assuming that half of BRT ridership represents a shift from trips made in passenger vehicles to trips taken on BRT, this equated to an **annual CO_2 reduction of approximately 7,000 tons.**

Portland's Light Rail System

The TriMet Metropolitan Area Express (MAX) light rail system, serving 64 stations over 44 miles of track in the Portland metropolitan area, sees 97,000 trips each weekday. More than $3 billion in development has occurred along MAX lines since the decision to build was made in 1978. MAX ridership now eliminates 22.2 million car trips per year, **offsetting an estimated 26,400 tons of CO_2 annually,** while reducing traffic, improving air quality, and preserving neighborhood livability.

Community Outreach

- ***Burlington's 10% Challenge***

  The 10% Challenge in Burlington, VT is a voluntary program to raise public awareness about global climate change and to encourage households and businesses to reduce their greenhouse gas emissions by at least 10 percent. Enlisting innovative outreach methods such as a musical road show called "Beat the Heat," the program is achieving an estimated **annual reduction of 1,500 tons of CO_2 in the residential sector alone.**

Other Initiatives

- ***Newark's Tree Planting Initiative***

  In 2004 Newark undertook a new project to create a more attractive, healthier, energy-efficient city with one simple tool: trees. Utilizing funding from a statewide urban forest energy efficiency initiative called "Cool Cities," Newark **planted 500 trees** in strategic areas to employ the tree's energy efficiency and air pollution reduction benefits. The City anticipates **each tree to reduce heating and cooling costs by up to 12 percent** for buildings that are shaded by the trees, which will in-turn reduce energy use and greenhouse gas emissions.

Take Action! Develop A Local Action Plan

Is your community ready to save money and increase livability while reducing greenhouse gas emissions?

Get started by developing a Local Action Plan. The process outlined below will help identify tried-and-true, budget-friendly opportunities and innovative new custom projects that can reduce greenhouse gas emissions in your jurisdiction. Select the best combination of projects that will enable your community to achieve its emissions reduction target and include them in your Local Action Plan.

Step 1

Identify existing programs already reducing greenhouse gas emissions

Does your city have a curbside recycling program or provide incentives for carpooling or riding public transport? Have any city buildings been retrofitted? Often there are many existing projects and programs already running in your jurisdiction to save money, increase energy efficiency, reduce solid waste, or improve local air quality. Find out what they are and if they are also reducing greenhouse gas emissions.

Step 2

Quantify emissions reductions already achieved

Use ICLEI's quantification software to measure the greenhouse gas reduction benefits of your jurisdiction's existing programs. As you learn which programs are most effective at reducing emissions, you can apply this knowledge in planning future projects. Add together the reductions you have already achieved to determine how far your local government has already come toward meeting its emissions reduction target, and how far you still have to go.

Step 3

Identify new opportunities for further reducing emissions

Consider the results of your greenhouse gas inventory and forecast—as well as sample projects implemented by your peers across the ICLEI network—in order to identify new reduction measures that maximize cost effectiveness, minimize staffing needs, build political support, raise public awareness, and create co-benefits such as new jobs and improved public health. Use ICLEI's quantification software to measure the emissions reductions of each proposed project and compare your total planned reductions to your community's emissions reduction target.

Step 4

Put everything together: Create your Local Action Plan

Once the total reductions resulting from your existing and planned projects meet your community's reduction target, it's time to incorporate all of these projects into a Local Action Plan.

A Local Action Plan Includes

A jurisdiction's greenhouse gas emissions data:

- Baseline emissions inventory
- Emissions forecast
- Emissions reduction target

Greenhouse gas reduction measures:

- Existing measures that will continue
- New or proposed measures
- Quantified emissions reductions resulting from each measure

Implementation strategies:

- Costs, responsibilities, schedules, and funding sources for implementing each measure
- Procedures for monitoring the progress of all reduction measures

ICLEI's website [**www.iclei.org/usa**] provides links to sample action plans created by other local governments in ICLEI's Cities for Climate Protection™ network.